

# Flight

A Journal devoted to the Interests, Practice, and Progress of  
Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE AERO CLUB OF THE UNITED KINGDOM.

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## FLIGHT.

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## SEEING IS BELIEVING.

"VOIR, c'est savoir," said Alfred de Musset. Assuredly, in connection with flight, showing is teaching, since to see is to know. And there is need for teaching on every possible occasion for many years to come. Hence it is gratifying to note the step to which Mr. Holt Thomas draws attention in a letter published in another page of this issue. He points out that in connection with the Exhibition to be opened at the White City at Shepherd's Bush this month there is to be a special section under the ægis of the Aero Club of the United Kingdom, wherein every possible matter of interest connected with flight will be dealt with to the fullest extent compatible with the material available. It is hoped to get some full-scale flying machines for display, while the photographic section is sure to be a large and uncommonly interesting one, and models of interesting sorts should make a conspicuous contribution, particularly in view of the extremely favourable conditions. Those who have machines to lend for exhibition will be charged nothing for space in which to display them, and will be helped toward that end to the material extent of having the cost of conveying their machines defrayed to Shepherd's Bush and from it; besides which the articles will be insured. Consequently, a very representative display should be brought together, and those who appreciate and who take an interest in flight should be grateful to the Exhibition authorities for providing a means of enlisting public interest in the movement, and for beginning to educate the masses in what is certainly quite the

most practical method possible. It is true, as Shopenhauer laid down, that "to get general ideas first, and make particular observations last, is to invert the process of education." In the case of the Exhibition, however, we are to consider that perhaps the chief value of any display of the sort must at all times be rather to arouse interest than to aim at actual tuition on definite lines. If you are to make people sympathetic with any new movement you must interest them before you can teach them. This preliminary process is none the less a logical and essential part of education, and the most valuable, because the fruit of it is that people are made to take a voluntary and lasting interest in the matter in question. "Your compulsory education turns out crown pieces in human flesh," said Honoré de Balzac. We want the physical and practical phases of flight dwelt on far more widely and often than the purely theoretical.

*"Tis education forms the common mind:  
Just as the twig is bent, the tree's inclined."*

People go to exhibitions on pleasure bent. Therefore, if you can first enlist their sympathies in an agreeable manner when they are in the mood of relaxation there is a better chance of keeping their interest aroused for a longer period than otherwise would be possible. This applies particularly to young folk.

Last week we had occasion to discuss the problem of teaching the young idea in matters of flight. Happily for our purpose, youth is very much on the side of aviation. It wants but little to rouse enthusiasm in young people of both sexes in the subject of riding the air. Perhaps the chief item of that said little is practical demonstration. Therefore, it is gratifying to know that that will not be lacking in plenty in these islands a few weeks hence and onwards. We are enabled to go a step further this week, by reason of the very practical suggestions which Mr. V. E. Johnson makes in a letter published on another page of this issue. Briefly, he is going to exploit the notion of prizes for schoolboys in connection with the practical study of flight as proven by the building of working models. There is scope for infinite development in this idea. For example, even in the nature of the prizes offered there is a chance for originality. Supposing a class of boys to be working for a term in the building of a model of any flying machine, no matter what the scale, it is quite certain that the greatest incentive that could be offered would be to give the completed machine to the boy who showed himself the most apt pupil. Books are well in their way, and books on flight would be especially acceptable to boys interested in that study; but there is no gainsaying that to become the possessor of a practical model is a charm to the

schoolboy which no printed matter can be invested withal.

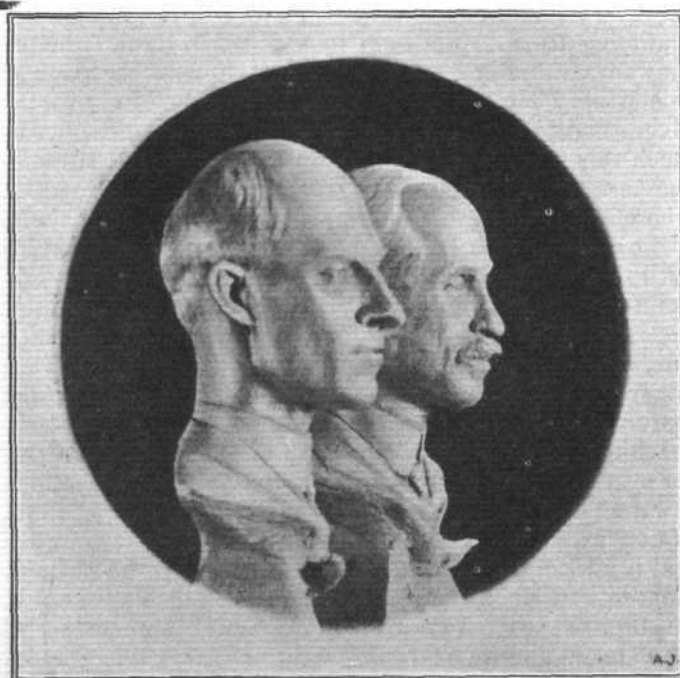
*"Of people he knew nothing, but of books  
Written in centuries ago he knew  
All that an ordinary man could learn—  
And this it is that British common sense  
Calls education, worth the best expense."*

The partiality for book-lore is scarcely the exclusive trait of the Britisher, as Mr. Heather Bigg appears to imagine, for, as we pointed out last week, it is a fault of education throughout the civilised world. But he may be gratified to know that beyond the matter of a doubt schoolboys and the youth of the day are wholly with him in his sentiment. It was Ruskin who told us that "the first condition of education is being put to wholesome and useful work." No schoolboy minds being put to wholesome and useful work if you make it interesting to him. Indeed, work is an inborn instinct even in the lazy ones amongst us, for we like it so much that in the earliest years of childhood we imitate work and call it play. This question of teaching thorough good work is quite the most important of the developments of modern education in general. There would appear to be a turn in the tide of opinion which will soon result in a change of method. "Men, elevated out of all states, are now the educators of states—dead men, for instance, like Plato," said Jean Paul in reference to what one might call the essentially mid-Victorian ideal. Engineering developments have been the unconscious but direct means of undermining the fallacy whereby, hitherto, training has gone in the direction of learning and not departing from what the great men of bygone times found to be the paths of practical or theoretical wisdom. In storing up the memory of their doings and sayings, we had grown to overlook the fact that each was great in his time chiefly because he was of an original turn and competent to cope with situations that had not been created before. That is what we have to equip the rising generation for. New times always call for new methods, and the real leaders of each generation always must be men who have not troubled

overmuch about what other folks would have done had they been in like situations with themselves.

In connection with this business of flying, we want to teach young men to realise that it is a practical thing, and something in which each can play a part. Doubtless there are very many public schoolmasters who entertain the rational and broad-minded views of Mr. Johnson, and it is our earnest hope that they may be induced to ponder over ways and means for introducing the subject of flight to the notice of their pupils, and to instruct them concerning the rudiments of the science. The task should be an interesting one to whosoever undertakes it, because it need not be carried out on hard and fast lines, and the teacher may learn as he goes along, for in matters of mechanical aerial-transport even the leaders among us admit themselves to be mere beginners.

From a patriotic point of view, it is essential that something should be done to spread interest in the movement as rapidly as possible. Statistics concerning what is being done by the leading nations in regard to the national employment of flying machines for purposes of defence and offence are embodied in a Parliamentary paper that has been widely quoted in the Press. The figures reveal how appallingly behind Britain is in devoting attention to the matter, despite the fact that it is one of supreme importance to us in that there are no natural frontiers in the air. As we know from the numerous voyages made in spherical balloons that merely drift with the will of the wind, as far as the machine is concerned there is no more in crossing the Channel than in floating over dry land. Therefore, if we are to continue unmolestedly in the enjoyment of "our bright little, tight little island!" something practical must be done in Britain as soon as possible, at least to enable us to keep pace with the things that can be done abroad. On Monday the greatest of all the "flying men," Messrs. Wilbur and Orville Wright, arrive in London *en route* for America, and will be entertained both by the Aero Club and the Aeronautical Society. Assuredly their visit will assist to attract public attention to the subject of flight.



PIONEERS IN THE AERONAUTICAL WORLD—A COMPARISON.—On the left the portraits, from an old print, of the Brothers Montgolfier, the great exponents of the early lighter-than-air school, are seen, and on the right the busts of the Brothers Wilbur and Orville Wright, the Kings of the Air, under the heavier-than-air principles.



## WELCOME TO ENGLAND.

WILBUR AND ORVILLE WRIGHT ARRIVE ON MONDAY.

THE honour and the pleasure of welcoming the Brothers Wilbur and Orville Wright to these shores is going to be conferred sooner than we had dared to hope on those who, in taking an interest in human flight, have become members of the two leading, and not in any sense rival, British bodies established in connection with aviation. On Monday the little brothers, who have earned immortality for themselves by gaining a fame that will last to the uttermost reaches of history, will arrive on these shores for a brief visit of two or three days, which is the longest time they can spare at the moment on their way to America on the completion of their Italian contract.

If any programme has been submitted to them concerning Monday and Tuesday mornings and afternoons, at least nothing is known at the time of writing of their having approved of such arrangements. But the evenings of both days will be gala and memorable ones in the annals of flight in Britain. On Monday the Aeronautical Society of Great Britain, which is the oldest established body of the kind in these islands, will entertain the famous American flying men to a banquet given privately by the Council at the Ritz Hotel, at 7 o'clock; while the Institution of Civil Engineers has been proud to lend its hall for a general meeting of the members of the Society, presided over by Mr. Edward S. Frost, at half-past eight o'clock, when suitable speeches will be made in connection with the presentation of one of the Society's gold medals to each of the brothers.

A more numerous attended function will be held at the Ritz Hotel the following evening, when Messrs. Wright will be entertained at a banquet given in their honour by the Aero Club of the United Kingdom, and to which a number of very distinguished men of the day have been invited and have signified their eagerness to attend. Some time ago a special deputation of the Aero Club was sent over to Paris to wait on Messrs. Wright and to present them with special gold medals designed and struck in their honour by the Club. Therefore on Tuesday evening there will be no function of presentation, but, it is assured, some speeches of brilliant, beyond ordinary after-dinner, oratory will be delivered. Those who are desirous of attending, and who have not intimated their intention of doing so

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### F. W. Lanchester's Cantor Lectures.

ON Monday evening, April 26th, Mr. F. W. Lanchester commenced a series of three "Cantor Lectures" on Aerial Flight before the Royal Society of Arts. The second lecture will be delivered on May 3rd, and the concluding section will be given on May 10th.

In so short a space of time as an hour it was, of course, impossible for even one so conversant with this subject as the author of "Aerodynamics" to do more than give the very briefest indication of the scope of the principles of dynamic support—which was the text of the first address. On the other hand, however, Mr. Lanchester made his lecture extremely interesting, and his remarks were enhanced by means of some unique lantern slides and a very complete set of diagrams. The full treatment of the points raised is to be found in Mr. Lanchester's book; indeed, the lecture itself may be said to have been an abstraction of a few of the more salient problems with which that exhaustive treatise deals.

already, should communicate at once with Mr. Harold E. Perrin, Secretary of the Aero Club, at 166, Piccadilly, W.

It is certain, from intimations that have already been received at the headquarters of the two organizations in question, that the gatherings at Monday and Tuesday evenings next will be brilliant and numerous attended functions. This is but what was to be expected. And it is desirable, because it is meet to show the great American pioneers what a very lively interest is taken in the science which is honoured by their achievements, and in themselves personally on account alike of their great genius and superb example of tireless devotion to the service of human flight. At a moment like this, too, when hundreds of our fellow enthusiasts will have the privilege of extending a personal welcome to Wilbur and Orville Wright, we want those great men to feel that those who will applaud them are but a fraction of the vast number of intelligent men and women in these islands who have a sincere admiration for their work, and who take a very real and studious interest in the subject of mechanical aerial travel. Those who will be able to be present either on Monday or Tuesday night, or on both occasions, will be a mere handful by comparison with the thousands who will long to be present, but who are prevented either by physical difficulties as in respect of distance, health, or what-not, or who cannot attend because they are not members of one or other of the organising bodies. We also wish the Brothers Wright to realise that their brief visit to London will serve materially to spread interest in the science of human flight, for beyond the matter of a doubt many folk who are not members of the Aeronautical Society, or of the Aero Club, will realise that it essential to join one or the other, or both, of those bodies, if they are to be really in the movement.

On behalf of FLIGHT, and speaking as the official organ of the Aero Club of Great Britain and Ireland, we extend the warmest welcome to England to the brothers, and we thank them heartily for the distinguished honour they are doing the Aeronautical Society and the Aero Club in attending the functions they are respectively organising. May this prove the first and briefest of a numerous and close series of their visits to Britain.

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The second lecture will relate to the principles of stability, and the third lecture to the flying machine as a complete unit.

### Spreading the Movement.

THE first of the two lectures announced in FLIGHT, April 17th, to be delivered by Mr. V. E. Johnson M.A., headmaster of the Boys' High School, Streatham, was duly delivered on Saturday last before an attentive and appreciative audience. Mainly historical in subject, Mr. Johnson's remarks were nevertheless given a most attractive air of reality by the use of lantern slides and models, and that he aroused enquiring minds may be judged by the fact that he was kept busy for long afterwards answering special questions. One of his experiments was the flying of a model "double-mono-plane" weighing 1½ lb., and a demonstration with a biplane running along the ground to show the disastrous effect of tilting the elevator too much when ascending, the model rising sharply into the air and turning over on its back.

# AERO CLUB OF THE UNITED KINGDOM.

## OFFICIAL NOTICES TO MEMBERS.

### BANQUET TO THE BROTHERS WRIGHT.

ON Tuesday evening next, May 4th, a banquet will be given by the Aero Club to Brothers Wilbur and Orville Wright at the Ritz Hotel, London, W., at 7.30 for 8 o'clock.

The original invitation to the Brothers Wright to visit England was given by the Aero Club as long ago as February 26th, 1906.

Members desirous of being present upon this important occasion should apply for tickets forthwith, as the accommodation is limited and tickets will be allotted in priority of application.

Dinner tickets, inclusive of wines, 30s. each.

Application, with remittance, to be made to the Secretary, Aero Club, 166, Piccadilly, London, W.

#### Committee Meeting.

A meeting of the Committee was held on Tuesday, April 27th, at 166, Piccadilly, W., when there were present: Mr. Roger W. Wallace, K.C., in the chair, Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Mr. Martin Dale, Prof. A. K. Huntington, Mr. V. Ker-Seymer, Mr. F. K. McClean, Mr. J. T. C. Moore-Brabazon, Mr. C. F. Pollock, Mr. Stanley Spooner, H. E. Perrin (Secretary).

**New Members.**—The following new Members were elected:—

Arthur P. du Cros, J.P., M.P.  
Percy Garratt.  
Ralph Glyn.  
Arthur Grove.  
Arthur T. M. Grove.  
Campbell H. Hunter.

R. Manns.  
John H. Robinson.  
W. H. F. Thomson.  
Count Alfred Tyszkiewicz.  
Corbett W. Woodall.  
Maurice E. A. Wright.

#### Sub-Committees.

The following Sub-Committees were appointed for the year 1909:—

#### GROUND COMMITTEE.

Mr. Ernest C. Bucknall, *Chairman*.  
Mr. Griffith Brewer.  
Mr. J. H. M. Greenly.  
Prof. A. K. Huntington.  
Mr. V. Ker-Seymer.  
Mr. F. K. McClean.  
Mr. J. T. C. Moore-Brabazon.  
Mr. C. A. Moreing.  
Vice-Admiral George Neville, C.V.O.  
Mr. Ernest Pitman.  
Hon. C. S. Rolls.  
Capt. W. G. Windham.

Major Baden-Powell.  
Mr. A. E. Berriman.  
Mr. Griffith Brewer.  
Col. J. E. Capper, C.B., R.E.  
Mr. W. J. Crampton.  
Mr. S. F. Edge.  
Prof. A. K. Huntington.  
Mr. Charles Jarrott.  
Major F. Lindsay Lloyd.  
Sir Hiram Maxim.  
Mr. J. T. C. Moore-Brabazon.  
Hon. C. S. Rolls.  
Mr. F. R. Simms.

#### COMPETITION RULES COMMITTEE.

Hon. C. S. Rolls, *Chairman*.  
Prof. A. K. Huntington.  
Mr. V. Ker-Seymer.  
Major F. Lindsay Lloyd.  
Lieut.-Col. Mark Mayhew.  
Mr. J. T. C. Moore-Brabazon.  
Mr. Mervyn O'Gorman.  
Mr. J. W. Orde.  
Marquis de Mouzilly St. Mars.

#### PUBLICATION COMMITTEE.

Mr. Martin Dale, *Chairman*.  
Mr. Ernest C. Bucknall.  
Mr. John Dunville.  
Mr. C. F. Pollock.  
Mr. Stanley Spooner.  
Mr. G. Holt Thomas.

#### TECHNICAL COMMITTEE.

Mr. Mervyn O'Gorman, *Chairman*.

#### The British Empire Michelin Cup.

The Michelin Tyre Co. has presented to the Aero Club of the United Kingdom, for competition by British aviators, a trophy of the total value of £500.

Annually, for five years, a replica of this trophy, together with a sum of £500 in cash, will be given to the successful competitor. This trophy will be competed for under the following conditions, *which shall apply for the first year only*:—

#### Conditions.

1. The holder of the cup for 1909 will be the competitor who, on March 31st, 1910, shall have accomplished the greatest distance on any heavier-than-air machine without touching the ground.
2. The minimum distance to be covered in order to qualify for this prize shall be 5 miles round two or more posts for the necessary number of circuits.
3. Entries must be made in writing to the Secretary of the Aero Club, 166, Piccadilly, London, W. At least two clear days' notice must be given by a competitor before making his attempt.
4. An entrance fee of 10s. will be charged, and a further sum of £1 must accompany every notification of an attempt by any competitor under these rules. Every competitor must be a member of some recognised body dealing with aerial matters in the Empire, and shall, if called upon, satisfy the officials of the Aero Club of his ability to fly at least 500 yards, before making any attempt under these rules.
5. All attempts must be made between the hours of sunrise and sunset, in the presence of the official or officials appointed by the Committee of the Aero Club.
6. The recognised flying ground is at Shellbeach, Island of Sheppey, but the Committee of the Aero Club will be willing to entertain any other ground subject to the competitor paying the necessary expenses incurred.
7. The start for the records will be reckoned from the crossing over the starting line in actual flight.
8. Competitors must be British subjects from any part of the Empire, manipulating a British-made machine. All the principal parts of a competing machine must be British made. All decisions applying to this rule shall be given by the Chairman of the Aero Club, Mr. Roger W. Wallace, K.C., and failing him, by an arbitrator nominated by the President of the Institution of Civil Engineers. This shall not be held to apply to raw material, but all finished or manufactured parts of such machine must comply with the above condition.
9. The decision of the officials of the Aero Club on all matters connected with this competition to be final and without appeal.

#### Salomons Cup.

Sir David Salomons, Bart., has presented to the Aero Club of the United Kingdom a trophy of the value of 100 guineas, to be competed for at their grounds at Shellbeach.

The winner will be the first competitor who shall have accomplished a flight on any heavier-than-air machine of at least half a mile, on a course round a mark a quarter of a mile distant from a prescribed starting place and returning without touching the ground to the starting line, which will be defined by two posts.

Every competitor must be a member of some recognised body dealing with aerial matters in this country.



An entrance fee of £1 must accompany each attempt by any competitor under these rules.

Entries must be made in writing to the Secretary of the Aero Club, 166, Piccadilly, London, W. At least two clear days' notice must be given by a competitor before making his attempt.

All attempts must be made between the hours of sunrise and sunset, in the presence of the official or officials appointed by the Committee of the Aero Club.

The decision of the officials of the Aero Club on all matters connected with this competition to be final and without appeal.

#### Aero Club Prizes for Short Flights.

The Committee of the Aero Club offer prizes for short flights made by flying machines at their grounds at Shellbeach.

Four prizes of £25 each for the first four competitors who shall have accomplished a flight of 250 yards.

Three prizes of £50 each for the first three competitors who shall have accomplished a flight of 1 mile in a closed circuit.

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## NEWS OF THE WEEK.

### Wilbur Wright in England.

BOTH Wilbur and Orville Wright, accompanied by their sister Katherine, will be visiting London, *en route* for the States, on Monday and Tuesday next, the 3rd and 4th inst., having left Rome on Wednesday last. One of their engagements is with the Aeronautical Society on Monday evening at 8.30 p.m., when they will be presented with the Gold Medal of the Society, awarded to them in November last. The brothers have already received the Gold Medal of the Aero Club of the U.K., and a Banquet of Honour is to be accorded to them by the Aero Club at the Ritz Hotel on Tuesday evening. Full particulars regarding this will be found on the previous page. There should be a big crush upon this occasion.

### Wilbur Wright in Italy.

WILBUR WRIGHT has been able to conclude his contract for the instruction of his pupils in Italy much more expeditiously than in the case of his French pupils. The reason is hardly because the Italians are more apt. More likely the explanation is that when Wilbur Wright was initiating MM. Tissander and Lambert into the mysteries of the art, the tutor was himself somewhat in the position of being also a learner, inasmuch as it was his first attempt at imparting his skill to another person. Moreover his own experience had not then been so extended with a motor-driven flyer as to have engendered the absolute confidence in flight which he has since attained. Whatever the reason, however, it is quite certain that Lieut. Calderara, his premier Italian pupil, has very quickly attained proficiency. Almost within the week from his first lesson this Naval Lieutenant took complete direction of the Wright flyer, and by the time this is in print Wilbur Wright will have left Rome *en route* for America *via* England. On one day Wright dispensed with his starting derrick on five consecutive occasions, and on another the rail also, this latter for the first time on record, thus once more disposing of the assertion that a necessary "accessory" to be always "attached" to the Wright flyer is the cumbersome derrick which, for convenience, is generally employed. It was not until Saturday last that King Victor Emmanuel was able to witness Wilbur Wright flying. On that day His Majesty was at Centocelle early in the morning, five flights being made, in one of which Wright was accompanied by Mr. Griscom, the U.S. Ambassador. During the week a dozen or more journeys have been made by Wright of from 6 to 20 mins. duration. On Monday last

Every competitor must be a member of some recognised body dealing with aerial matters in this country.

An entrance fee of £1 must accompany each attempt by any competitor under these rules.

Entries must be made in writing to the Secretary of the Aero Club, 166, Piccadilly, London, W. At least twenty-four hours' notice must be given by a competitor before making the attempt.

All attempts must be made between the hours of sunrise and sunset, in the presence of the official or officials appointed by the Committee of the Aero Club.

The start for the records will be reckoned from the crossing over the starting line in actual flight.

Competitors may only compete for one prize in any one flight.

The decision of the officials of the Aero Club on all matters connected with this competition to be final and without appeal.

HAROLD E. PERRIN, Secretary.

The Aero Club of the United Kingdom,  
166, Piccadilly, W.

he made five flights, again without using either rail or derrick, and included among the passengers taken up were two ladies, Madame Delafeld and Madame Belville.

### At Pau.

M. PAUL TISSANDIER and Count de Lambert both have their hands full in teaching their respective batch of pupils on the new Wright flyers delivered at Pont Long last week. The former is initiating MM. Rene Gasnier, Alfred Leblanc, H. Kapferer, and Capt. Ferber, and the latter has Leon Delagrangé in hand as his first pupil. M. Lambert will complete his final instructions at the Napoule Hippodrome at Cannes, where he has already arrived.

An installation of a dirigible to carry 25 passengers is to be the latest attraction at Pont Long at a cost of 100,000 francs. It will be ready for work by September next.

### At Buc and at Chalons.

M. GUFFROY, at Buc, on the R.E.P. monoplane, on Sunday last, carried out four flights of between 400 and 600 metres at about ten metres high, his return to the ground each time being noticeably graceful. Mr. M. Farman flew 300 metres on his biplane. At Chalons Camp Baron de Caters made a fine flight of 5 kiloms. with his machine on Thursday of last week. On Sunday and Monday last Mr. Henry Farman covered 3 kiloms., and Mr. Latham, on an Antoinette, 300 metres.

### Legagneux Has an Accident.

DURING his second short flight in Vienna on the Voisin-Farman machine last week, Legagneux struck the earth with the right wing, somewhat damaging the framework. This was soon set right, and on Saturday he made up for his previous poor attempts by covering distances of  $1\frac{1}{2}$  and 2 kiloms. during two flights, the latter at a height of 10 metres.

### M. Bleriot.

LATER in the year M. Bleriot intends to establish himself at Pau, where one of his monoplanes was to arrive this week. He proposes during several months' stay in this region to organise some flying competitions between Pau and Bagneres-de-Bigorre. In the meantime, on May 30th next, the monument being erected by the Municipality of Toury (Eure-et-Loir) in commemoration of M. Bleriot's historical cross-country flight on October 31st last from Toury to Rheims, is to be inaugurated with much ceremony and—a banquet.

## "La Demoiselle."

M. SANTOS-DUMONT last week shifted his baby flyer from St. Cyr to Issy in order that he might effect some modifications which he deems desirable.

### At Issy.

ROUGIER continues to practise on a Voisin biplane at Issy, and is making steady progress. Quite a number of new sheds are being erected to shelter fresh aspirants for flying honours; one of these is M. Thérout with his 14 metre biplane, constructed by MM. Regy Frères at Javel, and fitted with a 50-h.p. Farcot motor; a second, built by the same firm, but fitted with a 30-h.p. Turcat-Mery motor, and of 10 metres span, belongs to M. Odier; a third is a 12 metre span Jougey biplane, weighing complete 400 kilogs., fitted with a Mors motor; a fourth is a two-seated biplane by Piquerez, with a plane surface of 78 metres, 45-h.p. engine by Dutheil and Chalmers, two propellers. In addition there is M. Dumont's shed, and another for the Société Astra.

### At Juvisy.

ACTIVITY is also been shown at Juvisy, where a new Pischoff biplane has arrived. Several sheds are being erected, which are, it is stated, to house some Wright machines when delivered.

### Professor Reissner's Aeroplane.

EXPERIMENTING last week at Aix-la-Chappelle with his new aeroplane, Professor Reissner, after rising to a height of 5 metres for about 40 metres, came to earth too hastily, resulting in the machine being somewhat bent.

### Witzig-Liore-Dutelleul Aeroplane.

THE constructors of this machine, which is fitted with a 50-h.p. Renault motor, have modified their design by doing away with one of three planes, only now using two main planes.

### A Hurricane at Douai.

THE Brayelle aerodrome at Douai was severely dealt with by a hurricane which visited there last week, and among other damage done, was the destruction of the hangar housing the Breguet gyroplane. In consequence, the Commission Aérienne Mixte have postponed their visit which was to have been made to-morrow, Sunday, with the object of opening the flying grounds.

### Rules for British Prizes.

THE attention of our readers is directed to page 246, where, among the official notices of the Aero Club of the United Kingdom, will be found the regulations governing the competition for the British Empire Michelin Cup, the Sir David Salomons Cup for aviators, and the Aero Club's prizes for short flights.

### "Daily Mail" Cross-Channel Prize.

LATEST entries announced by our contemporary for this contest are Mr. Edgar Wilson, Mr. Huntley Walker (who has booked a Wright flyer), and M. Leon Delagrangé, who hopes to make his attempt next August.

### A London to Manchester 'Bus.

THE latest entrant for the *Daily Mail* London to Manchester prize is Mr. G. L. O. Davidson, who, readers of *The Automotor Journal* will remember, conducted a number of experiments in California in 1906 with a

hélicoptère machine. Although no definite particulars regarding the type of the machine Mr. Davidson proposes to use have been published, except that forward motion will be obtained from wing-like surfaces instead of propellers, it is stated that twelve passengers will be carried, the machine will weigh four tons, the motors will be of over 100-h.p., and the trip will take three hours.

### A New Army Dirigible.

A SMALL dirigible balloon has been constructed at the military balloon factory at Aldershot, and experimental flights will be made with it as soon as the weather is more favourable. The motive power of the new airship is obtained from a 12-h.p. 5-cyl. air-cooled Buchet engine.

### The Army Flyer Discarded.

AS far as one can understand, Mr. S. F. Cody now has a proprietary interest in the erstwhile British Army aeroplane, for it appears to have been presented to him by the War Office. Assisted by a staff of two labourers and with a friendly tow from a mineral-water cart, Mr. S. F. Cody took the machine on to Laffan's Plain on Monday for the purpose of testing a new rudder he had fitted to it. It did not prove to be successful, however, and at twilight the aeroplane was taken back to its shed.

### M. Jacques Faure's Dirigible.

VERY disappointing have been the attempts of M. Faure to carry out his scheme for a long flight by dirigible in the Mediterranean. Last week he sailed above the Bay at Monte Carlo for about half-an-hour, the trip being concluded by the airship falling into the sea, and being towed back to the harbour.

### "Gross II" Adds One to German Airship Fleet.

ANOTHER addition to the German aerial navy is to be recorded in the new semi-rigid dirigible "Gross II," which on Monday last was entirely successful, with and against the wind, in its trial trip above the Tegel rifle-range. Major Sperling was in charge, and for fully three-quarters of an hour the airship manoeuvred around the rifle-butts and the city of Berlin, at a height of about 700 ft. She is equipped with two 75-h.p. motors, the gas-bag being on the same lines as "Gross I," but rather more of the squat cigar shape, thicker forward and more pointed aft.

### First American Aviation Company.

UPON the initiative of Mr. Cortland F. Bishop, President of the American Aero Club, and one or two other wealthy men of New York, a company has been formed, with a capital of 360,000 dollars, for the purpose of building aeroplanes and airships. The services have been secured of Messrs. A. M. Herring and Glenn H. Curtiss, two well-known inventors of aeroplanes, the latter having been one of the original members of the Aerial Experiment Association. Dirigible balloons will be built under the supervision of Capt. Thos. S. Baldwin, who built the U.S. Army dirigible and several other small airships. The works are to be at Hammondsport, New York.

### American Flying Grounds.

DURING an interview in Paris, Mr. Cortland Bishop, President of the Aero Club of America, announces arrangements entered into by the Ae.C.A. for flying grounds on the Long Island Motor Parkway at Hicksville.



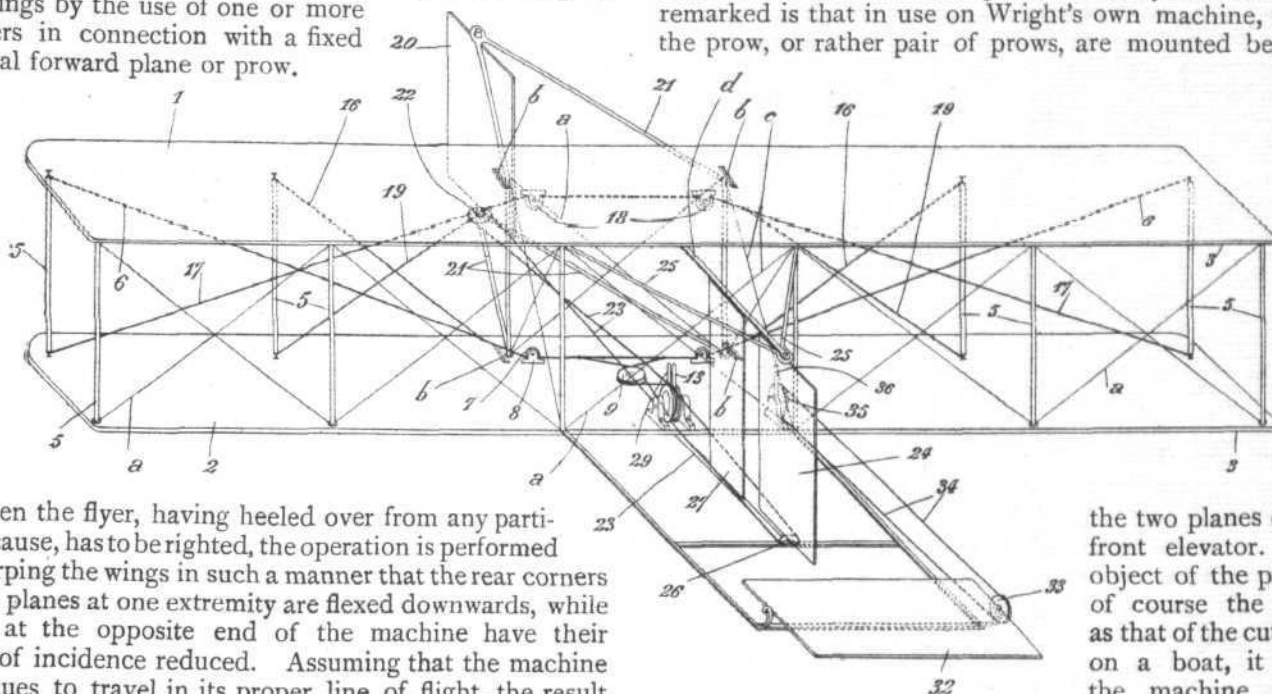
# WRIGHTS' BRITISH PATENTS.

WILBUR AND ORVILLE WRIGHT HAVE TAKEN OUT A PATENT RELATING TO THE CONTROL OF THEIR MACHINE COVERING THE INTER-CONNECTION OF THE RUDDERS WITH THE WING TIPS.

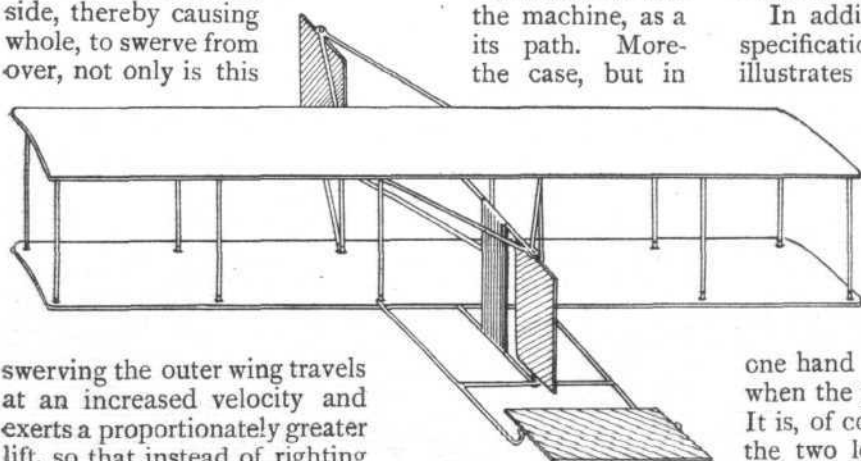
THE latest of the Wrights' British patents, No. 24076 of 1908, must really be regarded as preceding another patent already abstracted in FLIGHT of March 20th, for it deals with the same subject, but its clauses cover fundamental principles to which the latter patent is but a supplementary system. The object of the present invention is to correct the slewing tendency resulting from warping the wings by the use of one or more rudders in connection with a fixed vertical forward plane or prow.

The drawings accompanying the specification represent a biplane equipped with an elevator in front, a rudder behind the elevator, a fixed plane or prow behind the rudder, and another rudder at the rear of the machine.

It will be noticed that the claims of the specification include a clause covering the use of a single rudder in conjunction with the fixed prow, which system it may be remarked is that in use on Wright's own machine, where the prow, or rather pair of prows, are mounted between



When the flyer, having heeled over from any particular cause, has to be righted, the operation is performed by warping the wings in such a manner that the rear corners of the planes at one extremity are flexed downwards, while those at the opposite end of the machine have their angle of incidence reduced. Assuming that the machine continues to travel in its proper line of flight, the result of this operation is to increase the lifting effect under that end of the plane which has the greater angle of incidence, but in practice it is found, as would naturally be expected from theory, that increasing the angle of incidence likewise increases the resistance on that side, thereby causing the machine, as a whole, to swerve from its path. More over, not only is this



swerving the outer wing travels at an increased velocity and exerts a proportionately greater lift, so that instead of righting the machine the initial results of the manoeuvre tends if unchecked to make it capsize. In order that the operation of warping the wings may result in the proper effect, it is necessary to definitely maintain the initial velocity of that side of the machine which tends to lag behind. This latter manoeuvre can be achieved by steering in the opposite direction to that in which the machine, as a whole, tends automatically to swerve as a result of the warping. It is an operation which Wilbur Wright is in the habit of performing on his flyer, and the present invention covers the general system.

the two planes of the front elevator. The object of the prow is of course the same as that of the cutwater on a boat, it gives the machine direction, by completing

the couple producing the turning moment which alters the line of flight. Without a prow the tendency of steering would be to make the flier spin round on its own axis while still travelling on as a whole in the same direction.

In addition to one of the drawings from the patent specification, we have prepared a little sketch which illustrates the arrangement of the planes and rudders more clearly, but does not show the constructional details referred to in the patent itself. Provision is made for operating the rudders by a system of cords arranged as illustrated in the patent drawing, these cords being coupled up to a lever which is adjacent to another lever used for warping the planes. The levers are so close together that they can be grasped simultaneously in

one hand if required, a convenience which is essential when the planes have to be warped for righting purposes. It is, of course, impossible to permanently inter-connect the two levers, as otherwise the rudders would not be independently available for steering.

Part of the specification naturally relates to the construction of the machine in such a manner that the main planes can be warped as required, and as this is not only an essential characteristic of the Wright flyer, but is also a very interesting constructional detail in itself, we abstract the following paragraphs which describe the design:—

"For the purpose of obtaining the helicoidal torsion, the aeroplanes, 1 and 2, may be movable about axes situated in their plane. The front standards, 5, the parts in front of the frames, 3, and the

reinforcing cables, *a*, form together a rigid framework which keeps the edge in front of the aeroplanes in an unchangeable position. The rear standards, however, and the rear part of the frame, *3*, are connected rigidly near the centre of the machine only by the reinforcing cables, *a*. Stretched cables, *c*, mounted upon the central part of the machine, complete the connection between the two aeroplanes while opposing themselves to all-sliding movement of the one with respect to the other; said arrangement, in form of a cage, is intended to maintain the two aeroplanes in rigid connection one with another, but it will be evident that arrangements, other than that represented, might be devised with the same object; for instance, by means of standards in the middle of the machine. At the ends of this rear central and rigid part of the frames, *3*, are mounted joints, *b*. The parts of the frame situated beyond these joints form a regulatable tressing, and are maintained in any determined position by a stretched cable, *6*, fixed at its ends near the right and left rear corners of the upper aeroplane; it passes under convenient guides, *7*, supported by the lower aeroplane, in any manner, for example, by means of small bearings, *8*, and to receive tractions in the direction of the greater length of the aeroplane. These tractions may be communicated to them by means of any apparatus; by preference, they consist of an auxiliary cable, *8<sup>a</sup>*, fixed at its ends to the cable, *6*, at points, *6<sup>a</sup>* and *6<sup>b</sup>*, taken between the rollers, *7*, and carried back by a convenient guide, *9*, on to a drum, *10*, mounted upon a shaft, *11*, carried by brackets, *12*, on the lower aeroplane. The drum, *10*, is provided with a handle, *13*, and it can be held stationary upon the shaft, *11*, by the aid of a brake, which, in the present case, consists of a split collar, *14*, provided with a milled screw, *15*, by the aid of which the friction between the collar, *14*, and the shaft, *11*, can be regulated. A single cable, *6*, may be employed, but it is preferable to mount auxiliary cables, *16*, alongside the cable, *6*, at points situated near the guides, *7*, and to fix them to corresponding parts or lateral edges of the upper aeroplane, preferably near the rear edges. The length of the auxiliary cables, *16*, and the method of connecting them to the cable, *6*, and the upper aeroplane are such that an action exerted upon the cable, *6*, is transmitted to its ends and to the auxiliary cables, *16*, and, by all the cables, to the corresponding wings of the aeroplanes, thus producing the desired deformation of the rear edge of the aeroplane, and preventing it from becoming bulged or distorted between its outer edge and the hinge. A second cable, *17*, is fixed, by each of its ends, to the wings of the lower aeroplane, preferably near its rear corners; it passes over convenient guides, *18*, fixed to the upper aeroplane, and is of such a length that when it is connected to the lower aeroplane it remains stretched like the cable, *6*, these two cables, *6* and *17*, thus playing the part of stiffeners in the framework of the machine. The cable, *17*, is also preferably provided with auxiliary cables, *19*, working in a manner similar to that of the auxiliary cables, *16*, of the cable, *6*. The rear central part of the frames, *3*, with the reinforcing cables, *a*, and the rear parts of the side wings form, therefore, with the rods, *5*, the guides, *7* and *18*, and the cables, *6*, *16*, *17* and *19*, a funicular system both rigid and deformable of a new kind which permits of regulating the position of the rear corners of the aeroplanes while yet preserving to it the characteristics of a rigid framework. When the drum, *10*, is set in motion for moving the cable, *6*, to the left, thus pulling downwards the right-hand rear lateral part of the upper aeroplane, the corresponding part of the lower aeroplane is sensibly lowered, by virtue of the rigid connections formed between the upper and lower aeroplanes by the rods, *5*.

"The downward movement of this part of the lower aeroplane, worked by the cable, *17*, serves to lift up the rear left-hand portion of the lower aeroplane, and in that way, by means of the connecting-rods, *5*, to lift the corresponding part of the upper aeroplane, thus communicating simultaneously a helicoidal torsion to the wings of the two aeroplanes."



## Balloon Trips and Customs Duties.

THE increasing number of foreign balloons which land in France seems to have somewhat alarmed the Minister of the Interior, and incidentally suggested a new way of "raising the wind." Instructions have been issued to the Prefects throughout France and Algeria, that customs duties, ranging from 63 francs to 832 francs, according to size and material, are to be charged on foreign balloons landing on French soil. The Director of Customs has been asked to institute a scheme similar to that in force for motor cars, for the deposit and return of customs duty on balloons which are only temporarily admitted, but this cannot be considered at present.

There are nine claims to the specification, and as these are of a particularly far-reaching character, and are likely to be of some considerable importance besides being of the greatest possible interest to designers and manufacturers of the present day, we append them herewith in full:—

"1. In a flying machine, the combination with a single or multiple aeroplane having lateral portions capable of being adjusted while in flight to different angles of incidence on the right and left sides of the machine, of a vertical adjustable front rudder and a vertical adjustable rear rudder.

"2. In a flying machine, the combination with a single or multiple aeroplane having lateral portions capable of being adjusted while in flight to different angles of incidence, of a vertical adjustable rudder and a fixed vertical vane co-operating therewith to form a turning couple.

"3. In a flying machine, the combination with a single or multiple aeroplane having lateral portions capable of being adjusted while in flight to different angles of incidence, of vertical adjustable front and rear rudders and a fixed vertical vane mounted between the said rudders.

"4. In a flying machine, the combination with a single or multiple aeroplane and means for moving while in flight the right and left portions of the said aeroplane to face forward at different angles of incidence, of vertical rudders mounted in the front and rear of the said aeroplane, and means for simultaneously actuating both said rudders and said aeroplane.

"5. In a flying machine, the combination with superposed aeroplanes having a rigidly connected central portion and a guide or guides carried by said aeroplanes, of a cable secured at its opposite ends to the opposite lateral portions of the upper aeroplane and engaging the guide or guides carried by the lower aeroplane, and a second cable secured at its ends to the opposite lateral portions of the said lower aeroplane and engaging the guide or guides on said upper aeroplane, whereby when one of the said cables is actuated to move one of said lateral portions of one of said aeroplanes downward, the opposite lateral portion is moved upward and *vice versa*.

"6. In a flying machine, the combination with superposed connected aeroplanes, of a cable secured at its opposite ends to the opposite lateral portions of one of said aeroplanes, a guide carried by the other of said aeroplanes and adapted to engage said cable, an auxiliary cable connected at one end to said cable intermediate said guide and the point of connection of said cable with said aeroplane, and at its other end to said first-mentioned aeroplane at a point removed from the point of connection of the main cable to said aeroplane.

"7. In a flying machine, having tips adjustable to the aeroplanes and adjustable rudders, with means for operating the same, the application of friction-creating or holding devices for the purpose of holding the parts in the positions in which they are set, until moved out of such positions by means of the operating lever or levers substantially as set forth.

"8. In a flying machine, having aeroplanes with adjustable portions operated by a cable, and vertical rudders operated by a further cable or cables, connecting the said cables to drums mounted on a common axis, handles or other means for operating said drums together or separately as desired, substantially as set forth.

"9. A flying machine having superposed aeroplanes with the tips of same adjustable, said tips connected together by cables, so as to work in unison in opposite directions in combination with front and rear vertical adjustable rudders, or one or both of them and a fixed vertical vane, substantially as described and illustrated in the accompanying drawings."



## How to Make a Model Flyer.

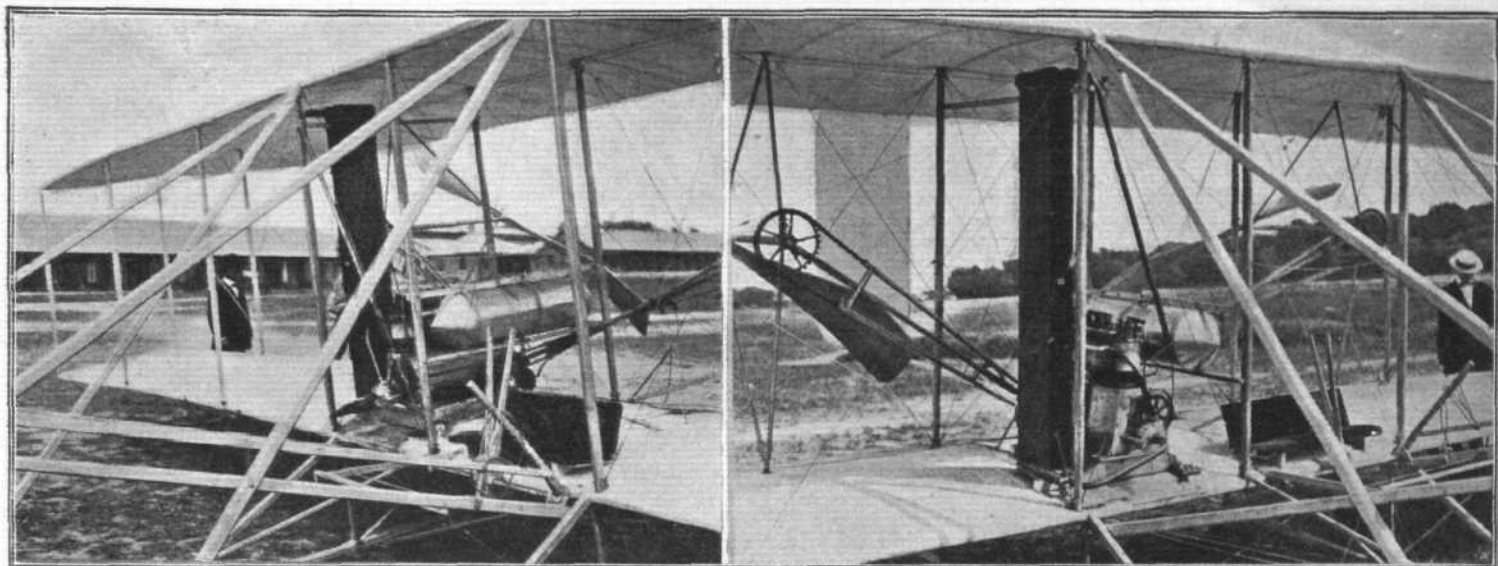
QUITE one of the nicest made little models at Olympia was the Twining biplane, and there has just been published by Percival Marshall and Co. (15.) a book of instructions by the designer showing how anyone may make similar toys at home. Accompanying the book, which is simply written and well illustrated, are a set of five full-sized detail drawings, which not only show exactly how each piece should be made, but can in many cases be actually used as a template for making them. It is essentially the kind of book which the amateur with a practical turn of mind requires when deciding to investigate flight in a small way by making a model flyer of his own.



## PRESENT STATUS OF MILITARY AERONAUTICS.

By GEORGE O. SQUIER, Ph.D., Major, Signal Corps, U.S. Army.

(Continued from page 190.)



Figs. 14 and 15.—Showing details of construction in the Wright Brothers' Flyer.

## AVIATION.

THIS division comprises all those forms of heavier-than-air flying machines which depend for their support upon the dynamic reaction of the atmosphere.

There are several subdivisions of this class dependent upon the particular principle of operation. Among these may be mentioned the aeroplane, orthopter, helicopter, &c. The only one of these that has been sufficiently developed at present to carry a man in practical flight is the aeroplane.

There have been a large number of types of aeroplanes tested with more or less success and of these the following are selected for illustration.

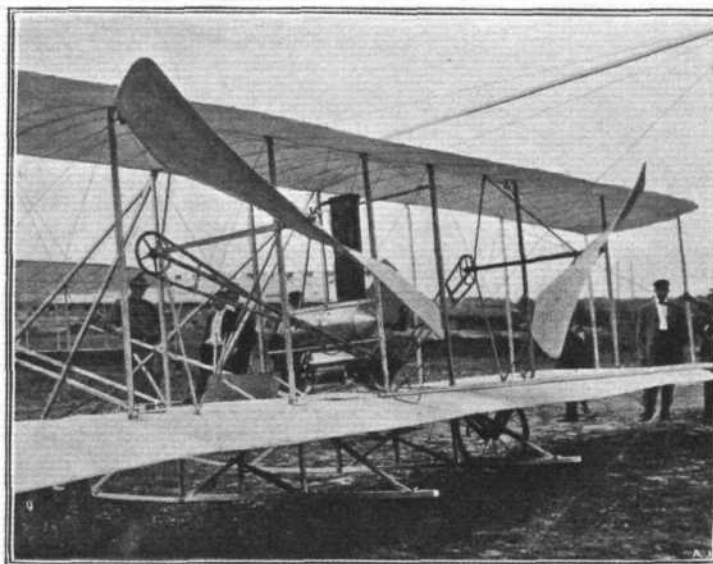
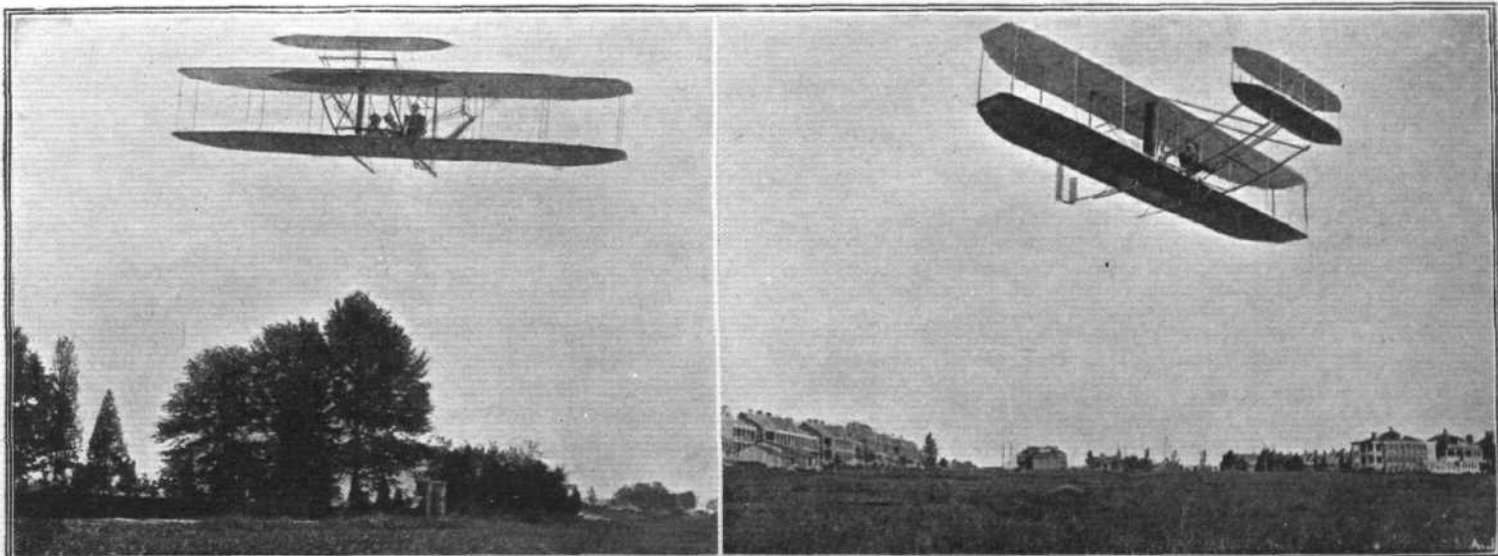


Fig. 16.—Details of rear view of Wright Brothers' Flyer.

REPRESENTATIVE  
AEROPLANES OF  
VARIOUS TYPES.The Wright Brothers'  
Aeroplane (Figs. 14 to 23).

The general conditions under which the Wright machine was built for the Government were, that it should develop a speed of at least 36 miles per hour, and in its trial flights remain continuously in the air for at least 1 hour. It was designed to carry two persons having a combined weight of 350 lbs. and also sufficient fuel for a flight of 125 miles. The trials at Fort Meyer, Virginia, in September of 1908, indicated that the machine was able to fulfil the requirements of the Government specifications.

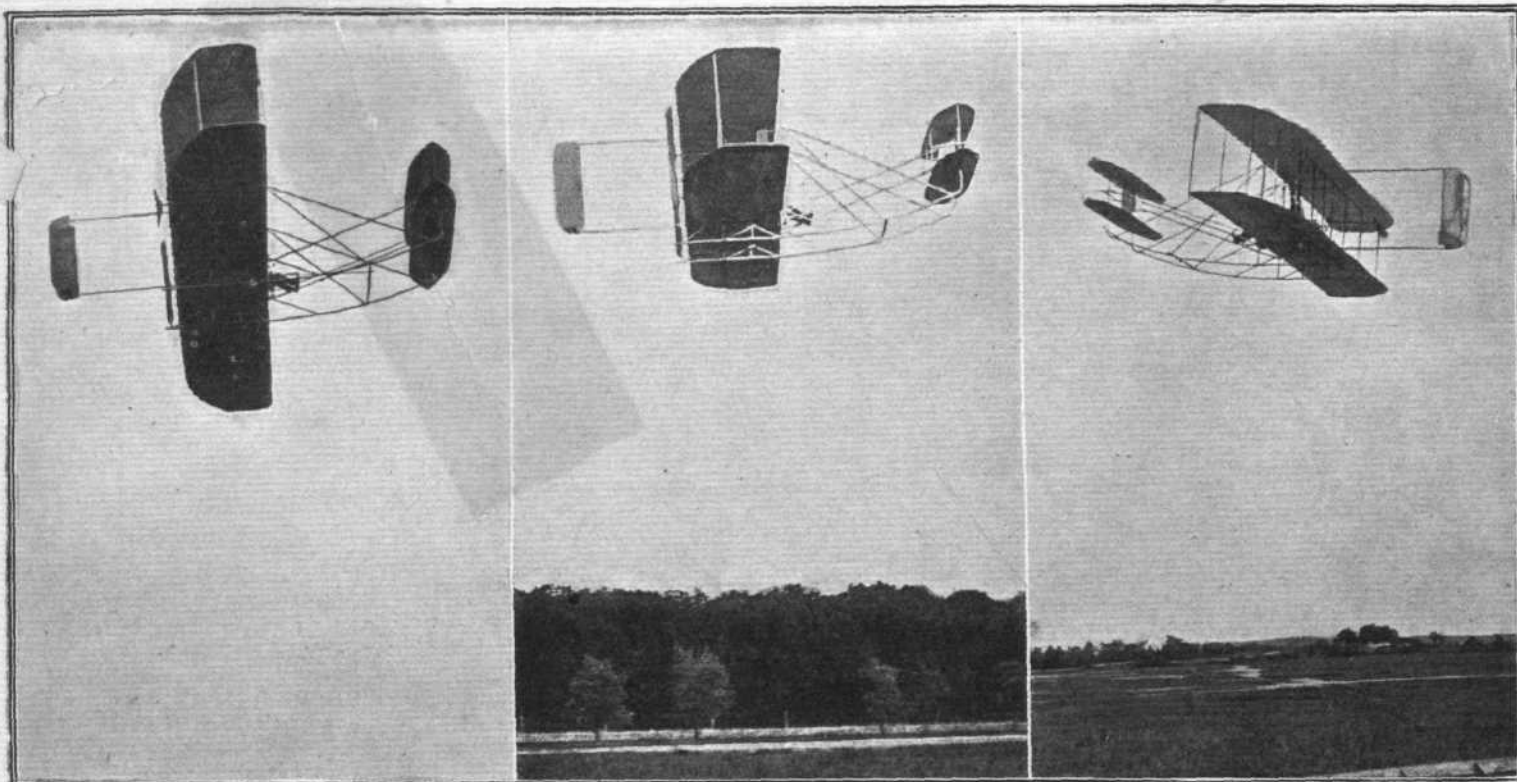
The aeroplane has two superposed main surfaces 6 ft. apart



Figs. 17 and 18.—Wright Brothers' Flyer. Fort Meyer, Va., September 9th, 1908.

with a spread of 40 ft. and a distance of  $6\frac{1}{2}$  ft. from front to rear. The area of this double supporting surface is about 500 sq. ft. The surfaces are so constructed that their extremities may be warped at the will of the operator.

vertical partitions near the middle of the main supporting surfaces, and one vertical partition in the middle of the box tail. A horizontal rudder in front of the machine is used to elevate or depress it in flight.



Figs. 19, 20 and 21.—Wright Brothers' Flyer, Fort Meyer, Va., September 12th, 1908, during its flight of 1h. 14m. 20s.

A horizontal rudder of two superposed main surfaces, about 15 ft. long and 3 ft. wide, is placed in front of the main surfaces. Behind the main planes is a vertical rudder formed of two surfaces trussed together about  $5\frac{1}{2}$  ft. long and 1 ft. wide. The auxiliary surfaces, and the mechanism controlling the warping of the main surfaces, are operated by three levers.

The motor, which was designed by the Wright Brothers, has four cylinders and is water-cooled. It develops about 25-h.p. at 1,400 r.p.m. There are two wooden propellers  $8\frac{1}{2}$  ft. in diameter, which are designed to run at about 400 r.p.m. The machine is supported on two runners, and weighs about 800 lbs. A monorail is used in starting.

The Wright machine has attained an estimated maximum speed of about 40 miles per hour. On September 12th, a few days before the accident which wrecked the machine, a record flight of 1h. 14m. 20s. was made at Fort Meyer, Virginia. Since that date Wilbur Wright, at Le Mans, France, has made better records; on one occasion remaining in the air for more than an hour and a half with a passenger.

A reference to the attached illustrations of this machine will show its details, its method of starting, and its appearance in flight.

### The Herring Aeroplane.

The Signal Corps of the Army has contracted with A. M. Herring, of New York, to furnish an aeroplane under the conditions enumerated in the specification already referred to and shown in the appendix to this paper. Mr. Herring made technical delivery of his machine at the aeronautical testing ground at Fort Meyer, Virginia, on October 13th.

In compliance with the request of Mr. Herring, the details of this machine will not be made public at present, but the official tests required under the contract will be conducted in public as has been the case with other aeronautical devices. Opportunity will be afforded anyone to observe the machine in operation.

This machine embodies new features for automatic control and contains an engine of remarkable lightness per horse-power.

### The Farman Aeroplane (Fig. 24).

The Farman flying machine has two superposed aero-surfaces 4 ft. 11 ins. apart, with a spread of 42 ft. 9 ins. and 6 ft. 7 ins. from front to rear. The total sustaining surface is about 560 sq. ft.

A box tail 6 ft. 7 ins. wide and 9 ft. 10 ins. long in rear of the main surfaces is used to balance the machine. The vertical sides of the tail are pivoted along the front edges, and serve as a vertical rudder for steering in a horizontal plane. There are two parallel,

The motor is an 8-cyl. Antoinette of 50-h.p. weighing 176 lbs., and developing about 31-h.p. at 1,050 r.p.m.

The propeller is a built-up steel frame covered with aluminium sheeting,  $7\frac{1}{2}$  ft. in diameter, with a pitch of 4 ft. 7 ins. It is mounted directly on the motor-shaft immediately in rear of the middle of the main surfaces.

The framework is of wood, covered with canvas. A chassis steel tubing carries two pneumatic-tyred bicycle wheels. Two smaller wheels are placed under the tail. The total weight of the machine is 1,166 lbs. The main surfaces support a little over two pounds per square foot. The machine has shown a speed of about 28 miles per hour, and no starting apparatus is used.

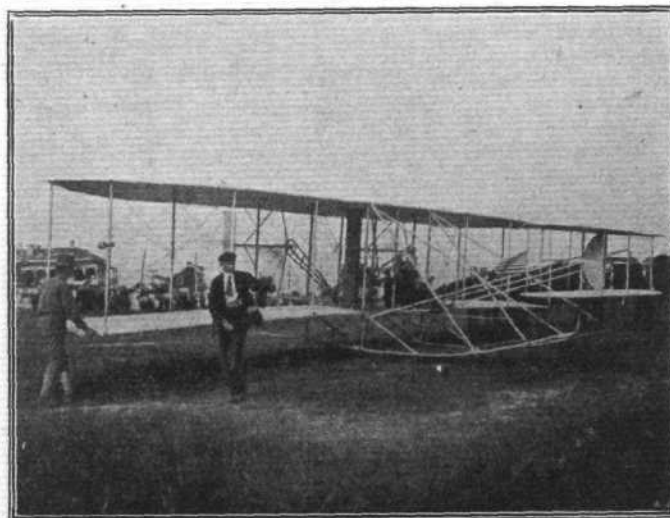


Fig. 22.—Ready for the start. Orville Wright and passenger, Fort Meyer, Va., September 12th, 1908.

On January 13th, 1908, Farman won the Grand Prix of the Aero Club of France in a flight of 1 min. 28 secs., in which he covered more than a kilometre. It is reported that on October 30th, 1908, a flight of 20 miles, from Mourmelon to Rheims, was made with this machine.



### The Bleriot Aeroplane.

Following Farman's first flight from town to town, M. Bleriot with his monoplane aeroplane made a flight from Toury to the neighbourhood of Artenay and back, a total distance of about 28

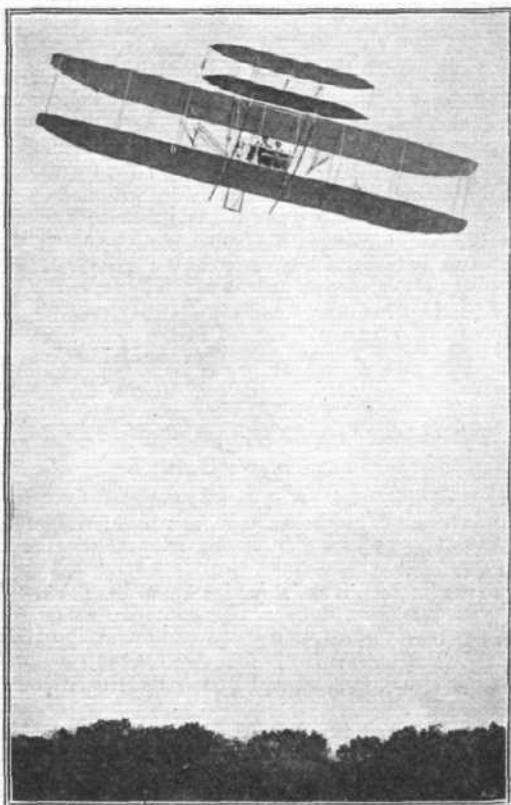


Fig 23.—Orville Wright and passenger, Fort Meyer, Va., September 12th, 1908. Time of flight, 9 mins. 6 secs.

kiloms. He landed twice during these flights, and covered 14 kiloms. of his journey in about 10 minutes, or attained a speed of 52 miles an hour.

### The "June Bug" (Fig. 25).

The "June Bug" was designed by the Aerial Experiment Association, of which Alexander Graham Bell is president. It has two main superposed aerosurfaces with a spread of 42 ft. 6 ins., including wing tips, with a total supporting surface of 370 sq. ft.

The tail is of the box type. The vertical rudder above the rear edge of the tail is 30 ins. square. The horizontal rudder in front of the main surfaces is 30 ins. wide by 8 ft. long. There are four triangular wing tips pivoted along their front edges for maintaining transverse equilibrium. The vertical rudder is operated by a steering wheel, and the movable tips by cords attached to the body of the aviator.



## CORRESPONDENCE.

\* \* The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.

### MODEL AEROPLANING—A SUGGESTION.

To the Editor of FLIGHT.

SIR,—Now that the summer is upon us and our thoughts and inclinations naturally turn to sports and pastimes of an outdoor character, I think the chance should not be let slip of making model aeroplaning the coming juvenile summer sport both at the seaside and elsewhere.

A year ago last summer the writer spent part of his holiday at Boulogne when diablo was all the rage; there are not wanting signs to show that the rage abroad this summer will be that indicated above. What ground or spot better suited for the flight of even the most delicately constructed model than the soft stretch of silver sand along the seashore.

There should be but little difficulty in arranging contests similar

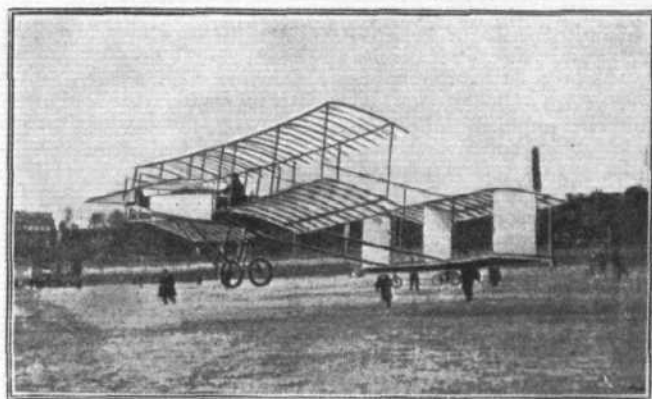


Fig. 24.—Farman Aeroplane.

The motor is a 25-h.p., 8-cyl., air-cooled Curtiss. The single wooden propeller immediately behind the main surfaces is 6 ft. 2 ins. in diameter, and mounted directly on the motor-shaft. It has a pitch angle of about 17°, and is designed to run at about 1,200 r.p.m.

The total weight of the machine, with aviator, is 650 lbs. It has a load of about 1½ lb. per sq. ft. of supporting surface. Two

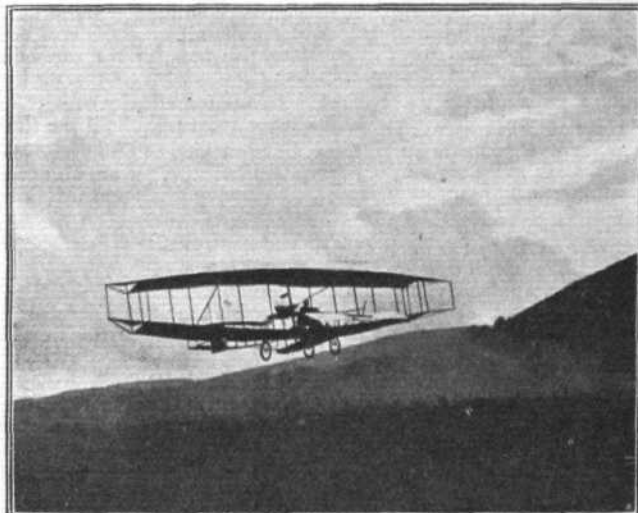


Fig. 25.—"June Bug" Aeroplane. Hammondsport, N.Y., Aerial Experiment Association.

pneumatic-tyred bicycle wheels are attached to the lower part of the frame.

With this machine, Mr. G. H. Curtiss, on July 4th, 1908, won the *Scientific American* trophy by covering a distance of over a mile in 1 min. 42½ secs. at a speed of about 39 m.p.h.

(To be continued.)



to the old "Concours de Diabolo" formerly held abroad, with prizes for the longest and steadiest flights, &c.

These contests would, I think, naturally divide themselves into the following heads:—

- (a) Original models;
- (b) Open to models of any kind.
- (a) gives a chance to the inventor, (b) for the skill of the user.
- These, again, might be subdivided into
- (i) Models thrown or projected into the air;
- (ii) Models which must rise from the ground, or start from a suspensory support without any external motive power.

There should be no difficulty in securing offers of prizes. Manufacturers and large dealers in aeronautical toys and models would— from a business point of view—probably be only too glad to offer such, apart from individual seaside amusement committees' offers.

Personally I am prepared to offer a prize for the best model flight made by a machine constructed by any schoolboy of strictly British nationality.

I remain, dear Sir, yours very faithfully,  
31, Gleneagle Road, Streatham, S.W. V. E. JOHNSON.

## FLYING MACHINE CRITICISM.

To the Editor of FLIGHT.

SIR,—In justice to Mr. G. L. Davidson, permit me to point out to your readers that the full-sized machine experiments with a simple design of hélicoptère in California were to test-lift only, free flight being impossible in the unfinished stage there, whilst the old Stanley steam boiler used did not lend itself to prolonged tests. The lift was very encouraging, exceeding, in fact, anything yet tried, but the boiler burst after the machine rose six times from the ground, as Mr. Davidson personally told me, and want of funds brought the experiments to a standstill. I understand, however, that Mr. Davidson is building an improved machine in England, to be completed in six months. Mr. E. C. Dwyer does not give the name of the second hélicoptère cited, but he doubtless alludes to that of Mr. Chubb, a design so simplified that no provision was made to prevent it crashing to the ground headlong if one of the 8ft. diameter screws failed to work, which actually did occur on the occasion of one of the experiments.

I am, Sir, yours sincerely,  
E. WILSON.

## MODELS AT OLYMPIA.

To the Editor of FLIGHT.

SIR,—My "cycloplane" is, I see, classed as a curiosity in this week's FLIGHT. I grant it is as a cycle, but at the same time it is a serious attempt to devise a distinct type of aeroplane for a flying machine capable of ascension from our ordinary roads, and which by trapping the air gives a great lifting power without having the entering edges so long. Further than this, I claim "automatic stability" under all wind or course-changing conditions—not a fancy claim either, as I have tested the cycloplane in all weathers now over 1,000 miles—it is not blown over in side winds, and I can build a cycloplane and carry it by one point of attachment (if I so desire), and she will head in the travelling direction automatically without the slightest control in beam and quarter winds and "lift" all the time. This should be a valuable "British" achievement, as it mechanically supplies a bird's nervous functions automatically. I am an ardent follower of Prof. Pettigrew, and venture to say Britishers will learn in time to revere his name as one of our own countrymen who has done more groundwork in fundamentals towards a perfect all-weather flying machine than any other mortal.

My cycloplane is a ready-to-hand attachment for a cycle which will make cycling easier, and positively teach the would-be aviator a great deal he has no idea of—he will understand better, though, after his initial cocksureness has given place to a healthy regard for the difficulties he still has to overcome before he becomes fully fledged.

For a flying machine on the cycloplane type, possessing, as I say, "automatic stability," I propose my "lift-and-thrust" (alternate) propellers in order to obtain Prof. Pettigrew's "wave or undulating flight," as I am firmly convinced this is as great an assistance to flight propulsion as in the "rise and fall forward" motion to a man in walking, and the power required will not be greatly in excess of the amount required to lift one's own weight after the initial impetus is given. I was struck by the difference in Wright's and Farman's flights, as shown by the excellent cinematograph at the Olympia. Farman's was prettiest, but to my idea Wright's undulating motion would in itself assist his motor, and I should say he keeps his elevator lever on the joggle for this purpose. Perhaps some of FLIGHT readers more conversant with his actual flights would express their opinion upon this point, as the elucidation of such points are of prime importance.

Mr. Hare, in this week's FLIGHT, gives in his postscript a valuable hint to all desirous of assisting British aviation, but through the inventor direct instead of prize giving—but I fear it will not be taken greatly to heart; patrons, like inventors, are human. By offering a prize the patron is assured that his money is associated with a successful machine; he will have no pride to pocket or failure to finance.

The plucky British patron to support a genius in embryo is a rarity, but thousands will run after this genius once his success is assured. I suffer this with Mr. Hare, who has my sympathy; at the same time Mr. Hare's arrangement of planes will not, I am afraid, fulfil his expectations. The great feature of an aeroplane never to be lost sight of is, *receive the air horizontally—part with it obliquely and downward*, not upward. It hurts me to criticise a brother inventor, especially when I appreciate the fact that he is possessed of such good godfathers, and that by providing a lot of entering edge in the aggregate on so narrow a machine he is certainly on a good thing for semi-dihedral planes.

If Mr. Hare will stagger his machine from before backward and upwards with a lift angle on each plane, he will find already deflected downward air will strike no posterior plane. A posterior plane, in nearly the same plane, cannot "lift" in already descending air.

Intelligent ingenuity was displayed in many of the Olympia models, but I suppose the inventors' descriptions would occupy too

much space in FLIGHT and only interest the technically minded. Foster's model, for instance, was I believe the only one in the Show provided with cambering mechanism for the elevators and helicoidal torsion controls, and I was pleased to see him awarded a Bronze Medal.

Yours truly,  
Gargrave via Leeds, April 26th.  
JOHN GAUNT.

To the Editor of FLIGHT.

SIR,—Will you allow me to point out an inaccuracy in the April 17th issue of your invaluable paper. In the descriptive matter relating to Mr. Tinline's model, you state: "The model is on a much larger scale than any of the others." This, I consider, reflects somewhat on my exhibit, in that my model was made to a scale of one third of full size, which scale I was given to understand Mr. Tinline used, and, moreover, a comparison of the actual models showed mine to be two feet the longer in the main planes.

I don't wish in any way to belittle Mr. Tinline's exhibit; on the contrary, I admired the design and completeness of it.

I am,  
Yours faithfully,  
H. BLACKBURN.

## AERIAL NAVIGATION SECTION.

To the Editor of FLIGHT.

SIR,—One of the sections at the Imperial International Exhibition at the Great White City, Shepherd's Bush, will be devoted to aerial navigation. The Exhibition will be open from the middle of May until October.

Owing to the interest in aerial navigation at the present time, it is hoped that the section will be as representative as possible, and a committee has been formed, under the chairmanship of Mr. Roger Wallace, K.C. (chairman of the Aero Club), with Professor Huntingdon as vice-chairman, and I have undertaken the duties of honorary secretary.

We shall be obliged if you will, through the valuable medium of your paper, make it known that we shall be glad to hear from anyone who is in a position to send exhibits likely to be of interest in the Aerial Navigation Section, and especially full-sized aeroplanes. The space will be entirely free, and the Exhibition administration have undertaken to defray the cost of transit and insurance during the Exhibition, and will provide attendants.

Communications should be addressed as soon as possible to the Honorary Secretary, the Aerial Navigation Section, Imperial International Exhibition, Shepherd's Bush, W., stating the nature of the exhibit and the space required. Thanking you in anticipation.

Yours faithfully,  
April 26th.  
G. HOLT THOMAS.

## CANTOR LECTURES.

To the Editor of FLIGHT.

SIR,—Would it be too much to ask if the Cantor Lectures on Aerial Flight which commenced on Monday last could be printed either in *extenso* or in *précis*, as I feel sure they would be of very great use to many who could not attend through one reason or another.

I am, Sir, yours faithfully,  
Ramsgate.  
A.D.G.

[We have received several letters expressing a special interest in Mr. F. W. Lanchester's Cantor Lectures, which we shall not be at liberty to deal with at length until they are published by the Royal Society of Arts, which is usually not until later in the season. We would again call attention to the fact, however, that, in the main, Mr. Lanchester is speaking on subjects which are more fully dealt with in his own work on "Aerial Flight," and although it is natural that a book should not be quite as interesting as a lecture, we would strongly recommend our readers to become acquainted with the contents of this particular work if they wish to appreciate Mr. Lanchester's very lucid methods of treating aerial problems.—ED.]

## Aeronautical Patents Published.

Applied for in 1908.

Published April 29th, 1909.

- 8,118. M. F. SOLON AND W. TELLWRIGHT. Air propellers.
- 13,315. R. MCLEAN. Flying machine.
- 21,497. L. BLERIOT. Balancing and steering.
- 28,015. E. E. STEINHAUS. Dirigible flying machines.

Applied for in 1909.

Published April 29th, 1909.

- 2,508. M. VANIMAN. Shelters for dirigible balloons.